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Joseph P. Lally
DEWAN & LALLY, L.L.P.
P.O. Box 684749
Austin, TX 78768-4749

EXAMINER	
BAYARD, DJENANE M	

ART UNIT	PAPER NUMBER
2141	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/931,290	KISTLER, MICHAEL DAVID	
	Examiner	Art Unit	
	Djenane M Bayard	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,692,197 to Narad et al in view of U.S. Patent No. 4,578,774 to Muller and further in view of U.S. Patent No. 2002/0184403 to Dahlin et al.

a. As per claim 1, Narad et al teaches a method of operating a server cluster including a set of server devices each connected to a local area network, comprising: deactivating the selected server responsive to a decrease in server cluster traffic; However, Narad et al fails to teach preventing access to a selected server's memory by other servers on the server cluster when the selected server is powered up; responsive to deactivating the selected server, permitting the other servers on the cluster to access at least a portion of the selected server's memory; and responsive to a request received by one of the other servers for a file stored in the selected server's file cache, retrieving the file from the selected server's file cache over the local area network.

Muller teaches a system for limiting access to Non-volatile memory in electronic postage meters. Furthermore, Muller teaches wherein erasing and writing of data in the non-volatile

memory of an electronic postage meter is prevented after the power up cycle (See col. 5, lines 25-30).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate preventing access to a selected server's memory by other servers on the server cluster when the selected server is powered up as taught by Muller in the claimed invention of Narad in order to prevent inadvertent erasure of or the writing of data in the electronic device (See col. 5, lines 5-7, Muller). However, Narad et al in view of Muller fails to teach responsive to deactivating the selected server, permitting the other servers on the cluster to access at least a portion of the selected server's memory; and responsive to a request received by one of the other servers for a file stored in the selected server's file cache, retrieving the file from the selected server's file cache over the local area network.

Dahlin et al teaches methods for near-optimal bandwidth-constrained placement in a wide area network. Furthermore, Dahlin et al teaches a network may include a number of client computer systems in communication with a number of origin servers. A client at or near machine i may request a data object alpha. If there exists a local copy of requested data object alpha at machine i, then data object alpha may be served locally. That is, the data object may be sent to the requesting client from machine i as used herein, when a data object is present in a memory, then a request for the data object may be said to "hit" the data object at the memory (See page 3, paragraph [0037]).

It would have been obvious one with ordinary skill in the art at the time the invention was made incorporate responsive to deactivating the selected server, permitting the other servers on the cluster to access at least a portion of the selected server's memory; and responsive to a

request received by one of the other servers for a file stored in the selected server's file cache, retrieving the file from the selected server's file cache over the local area network as taught by Dahlin in the claimed invention of Narad in view of Muller in order to place copies of objects at distributed caches within a distributed network (See page 1, paragraph [0003], Dahlin).

b. As per claim 6, Narad et al in view of Muller and further in view of Dahlin et al teaches the claimed invention as described above. Narad et al teaches wherein deactivating the selected server includes transitioning the selected server's processors to a low power state while maintaining power to the selected server's NIC and system memory (See col. 2, lines 11-19).

c. As per claim 7, Narad et al in view of Muller and further in view of Dahlin et al teaches the claimed invention as described above. However, Narad fails to teach wherein retrieving the file from the selected server's file cache includes initiating a direct memory access of the selected server's system memory from the selected server's NIC.

Dahlin et al teaches wherein retrieving the file from the selected server's file cache includes initiating a direct memory access of the selected server's system memory from the selected server's NIC (See page 3, paragraph [0037]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein retrieving the file from the selected server's file cache includes initiating a direct memory access of the selected server's system memory from the selected server's NIC as taught by Dahlin et al in the claimed invention of Narad et al in view of Muller in

order to place copies of objects at distributed caches within a distributed network (See page 1, paragraph [0003], Dahlin).

3. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,692,197 to Narad et al in view of U.S. Patent No. 4,578,774 to Muller and further in view of U.S. Patent No. 2002/0184403 to Dahlin et al as applied to claim 2 above and further in view of U.S. Patent Application No. 2002/0107935 to Lowery et al.

a. As per claim 2, Narad et al in view of Muller and further in view of Dahlin et al teaches the claimed invention as described above. However, Narad et al in view of Muller and further in view of Dahlin fails to teach wherein permitting the other servers to access at least a portion of the selected server's memory includes broadcasting a directory of the selected server's file cache contents to the other servers before powering down the selected server.

Lowery et al teaches a method and system for community data caching. Furthermore, Lowery et al teaches wherein permitting the other servers to access at least a portion of the selected server's memory includes broadcasting a directory of the selected server's file cache contents to the other servers before powering down the selected server (See page 8, paragraph [0076]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein permitting the other servers to access at least a portion of the selected server's memory includes broadcasting a directory of the selected server's file cache contents to the other servers before powering down the selected server as taught by Lowery et al

in the claimed invention of Narad et al in view of Muller and further in view of Dahlin et al in order to indicate the new content distribution (See page 8, paragraph [0076]).

b. As per claim 4, Narad et al in view of Muller and further in view of Dahlin et al teaches the claimed invention as described above. However, Narad et al in view of Muller and further in view of Dahlin fails to teach broadcasting a message to each of the other server devices on the server cluster that the selected server is to be activated; responsive to the activation message, preventing the other servers from accessing the system memory of the selected server; and activating the selected server.

Lowery et al teaches a method and system for community data caching. Furthermore, Lowery et al teaches broadcasting a message to each of the other server devices on the server cluster that the selected server is to be activated; responsive to the activation message, preventing the other servers from accessing the system memory of the selected server; and activating the selected server (See page 10, paragraph [0102]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate broadcasting a message to each of the other server devices on the server cluster that the selected server is to be activated; responsive to the activation message, preventing the other servers from accessing the system memory of the selected server; and activating the selected server as taught by Lowery et al in the claimed invention of Narad in view of Muller and further in view of Dahlin et al in order to indicate the new content distribution in (See page 8, paragraph [0076])

4. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,692,197 to Narad et al in view of U.S. Patent No. 4,578,774 to Muller and further in view of U.S. Patent No. 2002/0184403 to Dahlin et al, further in view of U.S. Patent Application No. 2002/0107935 to Lowery et al as applied to claims 2 and 4 above, and further in view of U.S. Patent Application No. 2002/0091826 to Comeau et al.

a. As per claim 3, Narad et al in view of Muller further in view of Dahlin et al and further in view of Lowery et al teaches the claimed invention as described above. However, Narad et al in view of Muller and further in view of Dahlin fails to teach prior to powering down the selected server, processing any pending client requests on the selected server.

Comeau et al teaches prior to powering down the selected server, processing any pending client requests on the selected server (See page 19, paragraph [0316]).

It would been obvious to one with ordinary skill in the art at the time the invention was made to incorporate prior to powering down the selected server, processing any pending client requests on the selected server as taught by Comeau et al in the claimed invention of Narad in view of Muller further in view of Dahlin et al in and further in view of Lowery et al in order to have a more interactive power up and power down process (See page 19, paragraph [0316]).

b. As per claim 5, Narad et al in view of Muller and further in view of Dahlin et al and further in view of Lowery et al teaches the claimed invention as described above. Furthermore, Narad et al teaches wherein preventing the other servers from accessing the system memory of the selected server includes deleting a directory of the selected server's file cache contents from

the memories of the other servers (See col. 2, lines 45-500

5. Claims 8, 11,13,16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,613,071 to Rankin et al in view of U.S. Patent No. 4,578,774 to Muller, further in view of U.S. Patent No. 2002/0184403 to Dahlin

a. As per claims 8 and 13, Rankin et al teaches device suitable for use in a data processing network comprising: at least one processor; a system memory accessible to the processor via a system bus; a network interface card (NIC), including a NIC controller and memory, connected to the system bus and providing a connection to the local area network (See col. 4, lines 25-35); server code means for deactivating the processor (See col. 4, lines 36-46); However, Rankin et al fails to teach wherein for preventing access to the server device's memory by other servers on the server cluster when the server device is activated; and NIC code means for enabling the other servers to retrieve a file from the system memory of the server device when the server device is deactivated.

Muller teaches a system for limiting access to Non-volatile memory in electronic postage meters. Furthermore, Muller teaches wherein erasing and writing of data in the non-volatile memory of an electronic postage meter is prevented after the power up cycle (See col. 5, lines 25-30).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein for preventing access to the server device's memory by other servers on the server cluster when the server device is activated as taught by Muller in the

claimed invention of Rankin et al in order to in order to prevent inadvertent erasure of or the writing of data in the electronic device (See col. 5, lines 5-7, Muller). However, Rankin et al in view of Muller fails to teach and NIC code means for enabling the other servers to retrieve a file from the system memory of the server device when the server device is deactivated.

Dahlin et al teaches methods for near-optimal bandwidth-constrained placement in a wide area network. Furthermore, Dahlin et al teaches a network may include a number of client computer systems in communication with a number of origin servers. A client at or near machine i may request a data object alpha. If there exists a local copy of requested data object alpha at machine i, then data object alpha may be served locally. That is, the data object may be sent to the requesting client from machine i as used herein, when a data object is present in a memory, then a request for the data object may be said to "hit" the data object at the memory (See page 3, paragraph [0037]).

It would have been obvious one with ordinary skill in the art at the time the invention was made to incorporate code means for enabling the other servers to retrieve a file from the system memory of the server device when the server device is deactivated as taught by Dahlin et al in the claimed invention of Rankin et al in view of Muller in order to place copies of objects at distributed caches within a distributed network (See page 1, paragraph [0003], Dahlin).

b. As per claim 11 and 16, Rankin et al in view of Muller and further in view of Dahlin et al teaches the claimed invention as described above. Furthermore, Rankin et al teaches wherein the NIC is configured to access the server system memory directly without invoking the server

processor (See col. 5, lines 23-50)

c. As per claim 20, Rankin et al in view of Muller and further in view of Dhalin et al teaches the claimed invention as described above. However, Rankin et al fails to teach wherein each of the server devices includes code means for retrieving a requested file from the file cache of a deactivated server on the server cluster responsive to determining that the requested file is in the deactivated server's file cache.

Dahlin et al teaches methods for near-optimal bandwidth-constrained placement in a wide area network. Furthermore, Dahlin et al teaches a network may include a number of client computer systems in communication with a number of origin servers. A client at or near machine i may request a data object alpha. If there exists a local copy of requested data object alpha at machine i, then data object alpha may be served locally. That is, the data object may be sent to the requesting client from machine i as used herein, when a data object is present in a memory, then a request for the data object may be said to "hit" the data object at the memory (See page 3, paragraph [0037]).

It would have been obvious one with ordinary skill in the art at the time the invention was made incorporate wherein each of the server devices includes code means for retrieving a requested file from the file cache of a deactivated server on the server cluster responsive to determining that the requested file is in the deactivated server's file cache as taught Dahlin in the claimed invention of Rankin et al in view of Muller in order to place copies of objects at distributed caches within a distributed network (See page 1, paragraph [0003], Dahlin).

6. Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,613,071 to Rankin et al in view of U.S. Patent No. 4,578,774 to Muller and further in view of U.S. Patent No. 2002/0184403 to Dahlin et al as applied to claims 8 and 13 above and further in view of U.S. Patent Application No. 2002/0107935 to Lowery et al.

a. As per claims 9 and 14, Rankin et al in view of Muller and further in view of Dahlin et al teaches the claimed invention as described above. However, Rankin et al in view of Muller and further in view of Dahlin fails to teach wherein the code means for enabling the other servers to retrieve a file from the server device includes code means for broadcasting a directory of the server device's file cache contents prior to deactivation.

Lowery et al teaches a method and system for community data caching. Furthermore, Lowery et al teaches wherein the code means for enabling the other servers to retrieve a file from the server device includes code means for broadcasting a directory of the server device's file cache contents prior to deactivation.

(See page 8, paragraph [0076]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein wherein the code means for enabling the other servers to retrieve a file from the server device includes code means for broadcasting a directory of the server device's file cache contents prior to deactivation as taught by Lowery et al in the claimed invention of Rankin et al in view of Muller and further in view of Dahlin et al in order to indicate the new content distribution (See page 8, paragraph [0076]).

7. Claims 10,15 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,613,071 to Rankin et al in view of U.S. Patent No. 4,578,774 to Muller and further in view of U.S. Patent No. 2002/0184403 to Dahlin et al as applied to claims 8 and 13 above and further in view of U.S. Patent No. 5,692,197 to Narad et al.

a. As per claims 10 and 15, Rankin et al in view of Muller and further in view of Dahlin et al teaches the claimed invention as described above. However, Rankin et al in view of Muller and further in view of Dahlin fails to teach wherein the code means for deactivating the server includes code means for powering down the server's processors while maintaining power to the server's NIC and system memory.

Narad et al teaches wherein the code means for deactivating the server includes code means for powering down the server's processors while maintaining power to the server's NIC and system memory (See col. 2, lines 11-19 and abstract lines 20-23).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the code means for deactivating the server includes code means for powering down the server's processors while maintaining power to the server's NIC and system memory as taught by Narad et al in the claimed invention of Rankin et al in view of Muller and further in view of Dahlin et al in order to rapidly awake from sleep state in response to stimuli by powering down selected modules thereby accomplishing power conservation without requiring a static shut down (See abstract, lines 23-26).

b. As per claim 18, Rankin et al in view of Muller and further in view of Dahlin et al teaches the claimed invention as described above. However, Rankin et al in view of Muller and further in view of Dahlin fails to teach code means for dynamically adjusting the number of deactivated servers in the network responsive to variations in network traffic.

Narad et al teaches code means for dynamically adjusting the number of deactivated servers in the network responsive to variations in network traffic (See col. 6, lines 5-30).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate code means for dynamically adjusting the number of deactivated servers in the network responsive to variations in network traffic as taught by Narad et al in the claimed invention of Rankin et al in view of Muller and further in view of Dahlin et al in order to rapidly awake from sleep state in response to stimuli by powering down selected modules thereby accomplishing power conservation without requiring a static shut down (See abstract, lines 23-26).

c. As per claim 19, Rankin et al in view of Muller and further in view of Dahlin et al teaches the claimed invention as described above. However, Rankin et al in view of Muller fails to teach wherein the network code means for directing client to servers of the network based at least in part on the requested content.

Dahlin teaches wherein the network code means for directing client to servers of the network based at least in part on the requested content (See page 3, paragraph [0035-0037]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the network code means for directing client to servers of the

network based at least in part on the requested content as taught by Dahlin in the claimed invention of Rankin et al in view of Muller in order to order to place copies of objects at distributed caches within a distributed network (See page 1, paragraph [0003], Dahlin).

8. Claims 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,613,071 to Rankin et al in view of U.S. Patent No. 4,578,774 to Muller and further in view of U.S. Patent No. 2002/0184403 to Dahlin et al as applied to claims 8 and 13 above and further in view of U.S. Patent Application No. 2004/0174814 to Futral.

a. As per claims 12 and 17, Rankin et al in view of Muller and further in view of Dahlin et al teaches the claimed invention as described above. However, Rankin et al in view of Muller and further in view of Dahlin fails wherein the NIC is a PCI compliant NIC.

Futral teaches wherein the NIC is a PCI compliant NIC (See page 2, paragraph [0015]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the NIC is a PCI compliant NIC as taught by Futral in the claimed invention of Rankin et al in view of Muller and further in view of Dahlin in order to provide flow control and buffer management for data transfer (See page2, paragraph [0015]).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent Application No. 2002/0116583 to Copeland et al teaches an automatic invalidation dependency capture in a web cache with dynamic content.

U.S. Patent Application No. 2002/0049918 to Kaxiras et al teaches a method and apparatus for reducing leakage power in a cache memory.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Djenane M Bayard whose telephone number is (571) 272-3878. The examiner can normally be reached on Monday- Friday 5:30 AM- 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Djenane Bayard

Patent Examiner

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER